

TABLE 3-continued

1 Materials	Formulation name					
	116-9A	116-13A	116-13B	116-13C	116-13D	116-13E
11 Viscosity Aging at 65 ° C. after:						
12 2 days, in (cps) Check @ 22° C.	4660	2340	2920	GELLED	2040	2010
13 7 days, in (cps) Check @ 22° C.	33100	2350	6230		2150	2100
14 14 days, in (cps) Check @ 22° C.	GELLED					
15 25 days, in (cps) Check @ 22° C.	GELLED	2390	GELLED	GELLED	2620	2350
16 39 days, cps. check at 22° C.	GELLED	2650	GELLED	GELLED	4290	4110

*Unless otherwise indicated, constituents are shown in parts by weight.

What is claimed is:

1. A cured three-dimensional article that has been produced by stereolithography and obtained by subjecting a radiation-curable composition to actinic radiation, said composition comprising a mixture of at least one cationically polymerizable compound and/or at least one radical polymerizable compound, at least one filler material, and at least one photoinitiator for cationic and/or radical polymerizations, in which an organic base stabilizer material is brought into contact with said composition in an effective amount to delay or prevent a significant increase in viscosity of the overall composition.

2. A process for manufacturing a stabilized filled resin composition for stereolithography comprising combining a mixture of at least one cationically polymerizable compound and/or at least one radical polymerizable compound, at least one filler material, at least one photoinitiator for cationic and/or radical polymerization(s) and an organic base stabilizer material in an effective amount to delay or prevent a significant increase in viscosity, in a reaction vessel.

3. A stabilized radiation-curable composition comprising a mixture of at least one radiation polymerizable compound, at least one filler material, at least one photoinitiator for polymerization and an organic viscosity stabilizer material selected from the group consisting of aryl-N,N'-dialkylamines and benzyl-N,N'-dialkylamines in an effective amount to delay or prevent a significant increase in viscosity of the overall composition.

4. A stabilized radiation-curable composition comprising a mixture of at least one radiation polymerizable compound, at least one filler material selected from the group consisting of sodium silicate, potassium silicate, calcium silicate, aluminum silicate, aluminum oxide and alumina trihydrate in an amount effective to delay or prevent a significant viscosity increase of the overall composition and at least one photoinitiator for polymerization.

5. A stabilized radiation-curable composition according to claim 3 wherein the organic viscosity stabilizer material is a benzyl-N,N'-dialkylamine.

6. A stabilized radiation-curable composition according to claim 5 wherein the benzyl-N,N'-dialkylamine is present at a concentration of 5 to 5000 ppm in the overall composition.

7. A stabilized radiation-curable composition according to claim 5 wherein the benzyl-N,N'-dialkylamine is benzyl-N,N-dimethylamine.

8. A stabilized radiation curable composition according to claim 3 wherein the at least one radiation polymerizable compound comprises a cationically polymerizable compound.

9. A stabilized radiation curable composition according to claim 3 wherein the at least one radiation polymerizable compound comprises a free radical polymerizable compound.

10. A stabilized radiation curable composition according to claim 8 wherein the cationically polymerizable compound contains at least one of a 1,2-epoxide, a vinyl ether, lactone, acetal, cyclic sulfide, cyclic ether, or siloxane group.

11. A stabilized radiation curable composition according to claim 3 wherein the inorganic filler material has at least in part been surface-treated with a compound-coupling agent that is either unreactive or capable of reacting when exposed to actinic radiation or free radicals.

12. A stabilized radiation curable composition according to claim 4 wherein the at least one radiation polymerizable compound comprises a cationically polymerizable compound.

13. A stabilized radiation curable composition according to claim 4 wherein the at least one radiation polymerizable compound comprises a free radical polymerizable compound.

14. A stabilized radiation curable composition according to claim 12 wherein the cationically polymerizable compound contains at least one of a 1,2-epoxide, a vinyl ether, lactone, acetal, cyclic sulfide, cyclic ether or siloxane group.

15. A stabilized radiation curable composition according to claim 4 wherein the filler material has a surface which has been treated such that it may undergo reaction with at least one other compound in the mixture.

16. A stabilized radiation curable composition comprising a mixture of at least one radiation polymerizable compound, at least one inorganic filler which has been surface treated such that the surface treatment improves the compositional viscosity stability as compared to said mixture with the exception that the filler material has not been surface treated, and at least one photoinitiator for polymerization.

17. A stabilized radiation curable composition according to claim 16 wherein the at least one radiation polymerizable compound comprises a cationically polymerizable compound.

18. A stabilized radiation curable composition according to claim 16 wherein the surface of said inorganic filler has been treated with beta-(3,4-epoxycyclohexyl)-ethyltrimethoxysilane, gamma-glycidioxypropyltrimethoxysilane or methyltriethoxysilane.

19. A stabilized radiation curable composition according to claim 16 wherein the at least one radiation polymerizable compound comprises a free radical polymerizable compound.

20. A cured three-dimensional article according to claim 1 wherein the organic base stabilizer material is a benzyl-N,N-dialkylamine.

21. A cured three-dimensional article according to claim 20 wherein the benzyl-N,N'-dialkylamine is present at a concentration of 5 to 5000 ppm in the overall composition.

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22. A cured three-dimensional article according to claim 20 wherein the benzyl-N,N'-dialkylamine is benzyl-N,N'-dimethylamine.

23. A cured three-dimensional article according to claim 1 wherein the material has at least in part been surface treated with a compound-coupling agent that is either unreactive or capable of reacting when exposed to actinic radiation or free radicals.

24. A cured three-dimensional article according to claim 1 wherein the cationically polymerizable compound contains at least one of a 1,2-epoxide, a vinyl ether, lactone, acetal, cyclic sulfide, cyclic ether or siloxane group.

25. A cured three-dimensional article according to claim 1 wherein the filler material has a surface which has been treated such that it may undergo reaction with at least one other compound in the mixture.

26. A cured three-dimensional article according to claim 1 wherein the surface of said at least one filler material has been treated with beta-(3,4-epoxycyclohexyl)ethyltrimethoxysilane, gamma-glycidoxypropyltrimethoxysilane or methyltriethoxysilane.

27. A process for manufacturing a stabilized filled resin composition according to claim 2 wherein the organic base stabilizer material is benzyl-N,N'-dialkylamine.

28. A process for manufacturing a stabilized filled resin composition according to claim 27 wherein the benzyl-N,

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N'-dialkylamine is present at a concentration of 5 to 5000 ppm in the overall composition.

29. A process for manufacturing a stabilized filled resin composition according to claim 27 wherein the benzyl-N,N'-dialkylamine is benzyl-N,N'-dimethylamine.

30. A process for manufacturing a stabilized filled resin composition according to claim 2 wherein the filler material has at least in part been surface treated with a compound-coupling agent that is either unreactive or capable of reacting when exposed to actinic radiation or free radicals.

31. A process for manufacturing a stabilized filled resin composition according to claim 3 wherein the cationically polymerizable compound contains at least one of a 1,2-epoxide, a vinyl ether, lactone, acetal, cyclic sulfide, cyclic ether or siloxane group.

32. A process for manufacturing a stabilized filled resin composition according to claim 3 wherein the filler material has a surface which has been treated such that it may undergo reaction with at least one other compound in the mixture.

33. A process for manufacturing a stabilized filled resin composition according to claim 3 wherein the surface of said filler material has been treated with beta-(3,4-epoxycyclohexyl)ethyltrimethoxysilane, gamma-glycidoxypropyltrimethoxysilane or methyltriethoxysilane.

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